Nuclear Power

INDEX

Volume 4 January—December 1959

Special features: Authors, Book reviews and Products are collected under these main headings. Contributed articles are also included under subject with the author's name following in parentheses. Photographs are shown by the use of (*P*).

A

Accelerators
Applied Radiation Corp. Nov. 125, Australia Nov. 128, AWRE (*P*) July 66, Copenhagen (*P*) Aug. 106, Germany Mar. 82, NIRN, Harwell Sept. 83, New Zealand Dec. 93, Switzerland ..... Jan. 85
AEI-John Thompson collaborate with Nuclear Power Plant Co. ..... Sept. 83
Aerojet boiling sulphur reactor Sept. 86, pool test reactor 10MWt ..... Feb. 63
Aerojet-General Nucleonics merge with Turbo-Machinery Div. ..... Dec. 130
Agreements
UK-Euratom Jan. 81, signed ..... Mar. 81
UK-USA amended June 92, AGR collaboration ..... Dec. 92
USSR-North Korea ..... Oct. 84
Allgemeine Elektrizitäts-Gesellschaft (AEG) 100MW BWR design study contract ..... Jan. 83
Aluminium alloys (Cotton) ..... Oct. 100-2
AMF 1MW research reactor for Israel (*P*) Sept. 85
Applied Radiation Corp. change accelerator wavelengths ..... Nov. 125
Argentina: nuclear power programme ..... Jan. 111
Argonne National Laboratory extend activities ..... Oct. 86
Atomic Power Construction prel. research Aug. 99
Atomics International 10MW reactor for Puerto Rico ..... June 92
Australia: 4MeV linear accelerator, Nov. 128, electronics development by AEC Sept. 119, nuclear power programme ..... Jan. 110, Sept. 124
Austria: nuclear power programme ..... Jan. 102

Author Index

Abson, W., and Awcock, M. Activity measurements on flux-scanning wires...Feb. 89-90
Aliaga-Kelly, D. All-steel gas proportional counter ..... Apr. 111
Aliaga-Kelly, D. Burst slug detection in water-cooled reactors ..... July 77-9
Armand, Louis. Euratom, 1958..... Jan. 88-90
Ashley, J. W. Trawsfynydd—engineering design ..... Nov. 90-4
Ayre, J. L. Thermocouple for reactor control ..... Dec. 117
Barker, J. Comparison of argon and helium welding shields ..... June 119
Blom-Cooper, L. J. Licensing and insuring nuclear plant ..... Sept. 93
Bracewell, G. M., and others. Switching two million amps ..... Nov. 115-7
Butcher, B. R. Deformation of alpha uranium ..... Oct. 105-6
Clarke, W. G. Single-zone U-233 thoria reactors ..... Apr. 109
Cole, W. Sterling. International Atomic Energy Agency, 1958..... Jan. 86-8
Cotton, J. B. Aluminium alloys for water-cooled reactors..... Oct. 100-2
Crawford, G. I. Semiconductors as radiation detectors ..... Aug. 84-7
Davidson, Caldwell. Europe's master plan—report on Stresa Conference.....July 69-72
Dealler, J. F. B. How a film badge service operates..... Sept. 101-4
Dove, D. B. Gamma dosimetry..... Jan. 124
Ediss, B. G., and others. Evaluation of heat transfer surfaces for nuclear boilers. 1. Plane tubing ..... July 80-2
2. Finned tubing ..... Aug. 95-8
Elliott, V. A., and Stathakis, G. J. Senn nuclear power station ..... Oct. 87-91
Everson, I. High pressure water loop in Dido ..... Dec. 103-8
Fair, D. R. R. Chapelcross: commissioning the first reactor..... June 104-9
Fenton, A. W. Control rod position indicator ..... Feb. 85-6
Fraas, A. P. New concept in power plants ..... June 118
Gerard, Charles. Belgium plans—PWR for Europe ..... Apr. 86-91
Grant, P. J. Fuel cycle optimization in power station design..... July 73-6
Gray, A. L. Gamma compensated ionization chambers for reactor control..... Dec. 112-6
Gray, A. L. Radiation detectors: operating principles ..... Feb. 74-7
Operating limitations ..... May 103-5
Gray, A. L., and Webster, R. Pulse transformers for counting..... Oct. 106-7
Greenough, G. B. Fuel elements today and tomorrow..... Apr. 92-6
Grove-Palmer, C., and Pass, H. Heat transfer properties of Santowax R Dec. 118-121
Hall, G. R. Criticality problems in chemical plant design ..... Oct. 97-9
Hamberger, S. M. Microwave diagnostics in plasma research ..... Sept. 106
Hartnell-Beavis, M. C. GEC cross flow fuel element ..... Nov. 106-8
Holt, P. D., and Clarke, A. B. +20 MeV neutron monitor..... Jan. 125
Hubbell, J. W., and others. X-ray penetration in lead..... Mar. 111
Huet, Pierre. European Nuclear Energy Agency, 1958 ..... Jan. 90-1
Jefferson, S. Industrial future for large radiation sources (Warsaw Conference) ..... Nov. 104-5
Jeffrey, A. Diffusion theory boundary conditions ..... Oct. 103-5
Kandiah, K. Electronics for radiation detection:
Typical systems and pulse amplifiers Sept. 95-100
Pulse counting ..... Nov. 109-114
Kitt, G. P., and Moss, J. H. Colorimetric analysis of radioactive solutions.....Feb. 90
Le Page, R. A. Dust removal in gas-cooled reactors..... Apr. 104-7
Loosemore, W. R. Radiation detectors: efficiency ..... Apr. 97-101
applications ..... June 112-6
Milner, G. W. C., and Edwards, J. W. Analysis of thorium-magnesium binary alloys ..... Mar. 110
Moore, N. C., and Huffadine, J. B. The future of ceramics as nuclear fuel ... May 86-9
Moss, J. H., and others. Handling curie levels of beta-gamma active solutions...June 120
Murray, P. Ceramics—development of the new fuels..... May 89-94
Nailer, C. H. Radiation-resistant lubricants ..... Jan. 132
New, D. H. Trawsfynydd—civil engineering ..... Nov. 97-9
O'Connor, H. C. Developing radiation-resistant lubricants ..... Aug. 88-9
Phillips, J. L. Dounreay—commissioning and start-up..... Dec. 94-100
Poor, H. H. Liquid metal fuel reactor experiment ..... Feb. 84
Reid, C. D. Internal inspection of fast reactor fuel elements ..... May 109-110
Roberts, H. A., and Bowring, R. W. Boiling nomenclature—plea for consistency ..... Jan. 122
Roberts, H. A., and Bowring, R. W. Boiling effects in liquid-cooled reactors ..... February 69-73, Mar. 96-101
Robson, A. E. Thermonuclear research—status report ..... June 98-101
Sandiford, K. R. Dounreay—instrumentation and control ..... Dec. 100a-102a
Schmidt, R. L., and Fidrych, L. F. BWR for merchant ship propulsion...May 106-8
Smith, M. F. Automatic counter for irradiated foils ..... Mar. 108-110
Syrett, J. J. Temperature and reactivity...May 95-7
Tomlinson, M. Oxidation of graphite in reactors ..... Nov. 117-8
Turnbull, A. H. Mass spectroscopy as a research tool ..... Sept. 108-111
Tyror, J. G. Controlling instabilities in graphite power reactors ..... June 94-7
Vincent, G. S. Economics of gas-cooled reactors ..... Sept. 88-92
Waldron, M. B. Plutonium metallurgy in Russia ..... May 111
Watt, W., and others. Impermeable graphite ..... Feb. 86-8
Weale, J. W., and others. Lido flux measurements ..... Jan. 123
Wells, F. H. Electronics for radiation detection. Discriminator and allied circuits ..... Oct. 92-6
Wells, H., and Williamson, I. Irradiation effect on plasticized p.v.c..... Jan. 123
Wilson, E. J., and Taylor, K. J. Separation of multi-curie krypton-85...May. 110
Woodeson, J. Fuel element manufacture at UKAEA factory..... Mar. 102-6
Wootton, K. J. Steps in designing a gas-cooled reactor..... Feb. 64-9
Wright, T. D., and Monahan, J. W. Vermiculite as an effluent decontaminant Mar. 110
Wyatt, O. H. Performance of nuclear rockets ..... Nov. 100-3
Young, S. A. Trawsfynydd—calculations...Nov. 95-7
Zinn, Walter H. Activity build-up in PWRs with stainless steel elements...Apr. 109-111

B

Babcock and Wilcox collaborate with Humphreys and Glasgow ..... Dec. 89
Babcock and Wilcox (German Ass.) 100MW design study contract ..... Jan. 83
Belgium: nuclear power programme ..... Jan. 102
Bellows (Teddington Aircraft) ..... Apr. 113
Birlec-Elco (Melting) Ltd. board ..... Jan. 142
Boiling heat transfer (letter) ..... June 85
Boiling: liquid-cooled reactors (Roberts and Bowring) ..... Jan. 122, Feb. 69-73, Mar. 96-101

Book Reviews

Accelerators of ions and electrons Cestmir Simane ..... Jan. 147
Atlas of gamma-ray spectra from radiative capture of thermal neutrons L. V. Grosher et al ..... Dec. 138
Australian Atomic Energy Symposium 1958 ..... July 98
Basic electricity War Office ..... Mar. 130
British instruments directory and buyers' guide. Scientific Instruments Manufacturers' Association ..... May 130
Chemical processing of nuclear fuels F. S. Martin and G. L. Miles ..... Apr. 130
Chemische Reaktionen Ionisierender Strahlen edited by H. Mohler Arran ..... Feb. 113
Chemistry of nuclear power J. K. Dawson and G. Long ..... June 140
Compact heat exchangers W. M. Kays and A. L. London ..... Jan. 147
Design of physics research laboratories Institute of Physics ..... May 130
Détecteurs de particules (compteurs et scintillateurs) Daniel Blanc ..... Nov. 136
Elsevier's *Dictionary of nuclear science and technology* W. E. Clason ..... Feb. 112
Geneva Presentation Volumes ..... Jan. 148
Geology of uranium (Russian Papers) ..... Apr. 130
Glove boxes and shielded cells edited by G. N. Walton ..... Apr. 132
Handbook of physics edited by E. V. Condon and Hugh Odishaw ..... Mar. 128
The Industrial cooling tower K. K. McKelvey and M. Brooke ..... May 129
Introduction to neutron physics L. F. Curtiss ..... Oct. 126
Kempe's Engineers Year Book edited by C. E. Prockter ..... Mar. 128
Lectures on nuclear theory L. Landau and Y. Smorodinsky ..... Nov. 136
Manual of safe handling isotopes IAEA ..... Feb. 112
Materials for nuclear reactors Bernard Kopelman ..... Aug. 112
The Neutrino J. S. Allen ..... Jan. 147
Nuclear engineering handbook edited by Harold Etherington ..... Mar. 128
Nuclear reactor metallurgy W. D. Williamson and W. F. Murphy ..... Mar. 130
Nuclear rocket propulsion R. W. Bussard and R. D. DeLauer ..... Mar. 128
The Physical theory of neutron chain reactors A. M. Weinberg and E. P. Wigner ..... May 129
Physics and heat technology of reactors Soviet Jnl. Atomic Energy ..... Dec. 138
Plasma physics and the problem of controlled thermonuclear reactions Vol III edited by Al Leontovich ..... Dec. 138
Principles of radiation dosimetry G. N. Whyte ..... Nov. 136
Proceedings of the 1958 Accelerator Conference ..... Sept. 128
Proceedings of the Sixth Scintillation Counter Symposium ..... July 98
Proceedings of the Third Conference on Carbon ..... Sept. 128
Proceedings of the 2nd United Nations International Conference on the Peaceful Uses of Atomic Energy
- Vol 4 *Production of nuclear materials and isotopes* ..... May 129
- Vol 5 *Properties of reactor materials* Sept. 128
- Vol 8 *Nuclear power plants* Part I ..... July 98
- Vol 10 *Research reactors* ..... Sept. 128
- Vol 11 *Reactor safety and control* ..... Oct. 126
- Vol 17 *Processing irradiated fuels and radioactive materials* ..... July 98
- Vol 18 *Waste treatment and environmental aspects* ..... Oct. 126
- Vol 19 *The Use of isotopes* ..... July 98

Progress for nuclear power Political and Economic Planning ..... May 130
Progress in Nuclear Energy Vol 2 *Medical sciences* edited by J. C. Bugher, J. Coursaget and J. F. Loutit ..... June 138
Pump users' handbook Herbert Addison ..... June 138
Radiation Biology and Cancer Symposium ..... June 140
Recommendations of the International Commission on Radiological Protection ..... June 138
The Structure of metals Institution of Metallurgists ..... Aug. 112
Successful technical writing by Tyler G. Hicks ..... Oct. 126
The Technical writer J. W. Godfrey and G. Parr ..... Aug. 112
Technologie des réacteurs nucléaires Vol I Matériaux P. Ageron et al ..... Dec. 138
Theory and design of magnetic amplifiers E. H. Frost-Smith ..... May 130
Transform method in linear system analysis John A. Aseltine ..... June 138
Boron trichloride Joint research Dow and US Borax ..... Jan. 142
Brazil: nuclear power programme Jan. 111, Apr. 82
British Instn. Radio Engineers new premiums ..... May 120
British Insulated Callender's Cables acquire Telcon Jan. 140 form new company with Bundy Corp. ..... Nov. 126
British standard 1500 ..... Jan. 140
Brookhirst Igranic Ltd. formation and board ..... Jan. 142
Burnout ..... Jan. 122

C

Canada: nuclear power programme Jan. 112, Chalk River reactor school Nov. 128, nuclear research centre, Manitoba ..... Dec. 90
Carter Thermal Industries Ltd new holding company ..... May 120
Ceramics for nuclear fuels (Moore and others) ..... May 86-94
Chile: nuclear power programme ..... Jan. 111
Coal output, UK ..... Nov. 85
Cockcroft, Sir J. first Master of Churchill College ..... Mar. 81
Colombia: atomic authority created ..... Nov. 86
Computers, new designs ..... Apr. 120
Consolidated Beryllium Ltd. formed ..... Aug. 104
Control rods: CEGB stations (Cockcroft) Jan. 126, ceramic for UKAEA June 130, drop recorders Apr. 112, Position indicator (Fenton) Feb. 85-6
Controls systems thermocouples (Ayre) ... Dec. 117
Cornell University nuclear facilities ..... Oct. 86
Couplings: self sealing ..... Apr. 114-5
Criticality: chemical plant design (Hall) Oct. 97-9
Cuba: nuclear power programme ..... Jan. 111
Customs and Excise Tariff: international agreement ..... Jan. 140
Czechoslovakia: nuclear power programme Jan. 107

D

Degussa exchange agreement with US Mallinckrodt ..... Mar. 85
Denmark: nuclear power programme ..... Jan. 103
Detectors-radiation (Gray) Feb. 74-7, applications (Loosemore) June 112-6, discriminator circuits (Wells) Oct. 92-6, efficiency (Loosemore) Apr. 97-101, electronics (Kandiah) Sept. 95-100, foil activation method (Smith) Mar. 108-110 gas proportional counters Apr. 111, ionization chambers-flux measurement in wires (Abson and Aweock) Feb. 89-90, gamma compensated (Gray) Dec. 112-6, operating limitations May 103-5, pulse amplifiers (Kandiah) Sept. 95-100, pulse counting (Kandiah) Nov. 109-114, pulse transformers (Gray and Webster) Oct. 106-7, semiconductor use (Crawford) ..... Aug. 84-7
Dosimetry, gamma (Dove) ..... Jan. 124
Dust suppression Springfields Works (*P*) Dec. 132

E

Effluent decontamination by vermiculite (Wright and Monahan) ..... Mar. 110
Ekco Electronics new Italian company ..... July 94
Electricity supply, UK: capital expenditure Jan. 82
Electro-Hydraulics take over Scott Electric Vehicles ..... Dec. 130
Elliott Bros. Berkeley simulator Jan. 130, Hg wetted contact relays ..... Nov. 126
Elliott Nucleonics Ltd. formation ..... Jan. 85
EMI Electronics: AEA contract for personal monitors Dec. 130, co-operates with Cossor for Canadian Market Feb. 99, transistorized data recording and analysing system for Harwell ..... Jan. 141
Engineering Equipment Users Assn. ..... Feb. 59
Engineering, Marine, Welding and Nuclear Exhibition 1959 ..... May 98-102
English Electric: OMR agreement with Atomics International July 67, research progress at Whetstone Sept. 114-5, building 7000 MeV synchrotron for Rutherford HE Lab. ..... Jan. 140
Euratom: 1958 review Jan. 88-90, 2nd progress report Apr. 84, financing joint US-Euratom programme Sept. 83, E. Hirsch new President Mar. 84, Nuclear Supply Agency ..... Jan. 85
Eurochemic: Spain participates ..... Mar. 83
Europe: nuclear power programme July 69-72, Dec. 89
European Nuclear Energy Agency, 1958 ... Jan. 90-1

F

Fairfield Shipbuilding and Engineering Co. collaborate with Mitchell Engineering ... May 121
Finland: subcritical assembly (Ydin) (*P*) Jan. 109, nuclear power programme ..... Jan. 103
Food preservation by irradiation: Harwell symposium ..... Jan. 121
FAO food irradiation symposium Jan 128 (letter) ..... Feb. 53
France: CEA Progress Apr. 82, fuel plans Nov. 89, G2 feeds national grid June 92, nuclear power programme ..... Jan. 101-2
Fuel cycles, optimization (Grant) ..... July 73-6
Fuel elements: Burst slug detection (Aliaga-Kelly) July 77-9, Plessey Nucleonics equipment Nov. 125, ceramic, fabrication (AEC) Sept. 121, cross-flow (Hartnell-Beavis) Nov. 106-8, developments (Greenough) Apr. 92-6, Fast reactor, inspection May 109-10, fuel plates for AGIP-Nucleare's Argonaut Feb. 63, GE gas-cooled loop tests June 93, for Halden BWR (*P*) Jan. 105, manufacture at Springfields Mar. 102-6, metallographic examination (Spembly Ltd.) Feb. 92, uranium oxide (AMF Atomics (Canada)) Sept. 121, uranium oxide pellets, General Electric tests Oct. 116
Fuel fabrication plant, Trombay, India ... Sept. 120
Fuel processing plant: Ellweiler, Federal Germany Nov. 88, Vitro Engineering Co. contract Sept. 119
Fuji Electric Co., Japan, agreement with GEC ..... Jan. 83

G

Gases: ionization phenomena, 4th Intern... Conference, Uppsala, Sweden 2NL 124
General Dynamics: HTGC contract Oct. ... Triga II for Kansas State University Dec. 9... Triga II for Viet-Nam ....ece. 92
General Electric (US) 60MW propulsion ... design 106-8
General Electric Co. Ltd. agreement ... Fuji Electric Co. Jan. 83, agreement wit... German MAN July 67, combine with Vacuum ... dustrial Feb. 99, 40MeV linear accelerator for ...rmany Mar. 82, New power-operated manip... for Windscale Jan. 142, range of nucl... power stations Apr. 102. Simon Carves collar... ...e with APC ....ov. 85
General Nuclear Engineering: 15MW B... AEC design study contract Jan. 83, subsidi... of US Combustion Engineering ....eb. 90
Germany, East, uranium output ....pr. 85
Germany, Federal Republic: Argonaut-type ... reactor critical Sept. 85, Baden-Württemberg ... 100MW reactor, British tenders rejected Apr. 85, British prospects Jan. 81, Garching research centre, neutron diffraction plant Nov. 128, Nuclear power programme Jan. 103, Max Planck Institute of Nuclear Physics new linear accelerator Sept. 122
Gesellschaft für Kernenergieverwertung in Schiffbau und Schiffahrt (GKSS) contract with Euratom for marine OMR development ..... Mar. 82
Graphite: impermeable (Watt and others) Feb. 86-8, honeycomb sections (*P*) May 120, oxidization Nov. 117-8, radiographic inspection May 114, stored (Wigner) energy problem (Cockcroft) Jan. 126, measurement Aug. 94, release ..... May 113
Griffin & George (Research and Development) Ltd. formed ..... Mar. 122

H

Heat exchangers: gas/water, heat transfer evaluation (Ediss) July 80-2, finned tubing heat transfer evaluation (Ediss and others) ..... Aug. 95-8
Helium transportation (US NBS study) ... Feb. 99
High Voltage Engineering Corp. sell 10MeV accelerators to Switzerland and Austria ... Jan. 85
Hilger and Watts buy Infra-Red Development Co. ..... Dec. 130
Hill & Smith Ltd., contractors for structural steelwork, Harwell ..... Jan. 142
Hitchman, Sir Alan, succeeds Mr. W. Strath ..... Mar. 81
Hungary Nuclear Research Institution: expansion Apr. 83, research establishments ..... Feb. 60

I

Imperial Chemical Industries Belgian order for aluminium piping ..... Jan. 85
India: nuclear power programme ..... Jan. 108
Infra-Red Development Co. bought by Hilger & Watts ..... Dec. 130
Insurance, nuclear plant (Blom-Cooper) ... Sept. 93
International Atomic Energy Agency: budget 1960 Oct. 83, functional laboratory approved May 81, Manual of safe handling of radioisotopes Jan. 85, missions to S. America June 92, Aug. 73, 1958 review Jan. 86-8, nuclear materials supply Jan. 85, May 81, fuel agreements June 92, uranium tenders Jan. 84, 3rd General Conference (*P*) Nov. 88, 132
International Computers and Tabulators Ltd. formed ..... Mar. 122
Ispra opened May 82, taken over by Euratom Aug. 73
Israel: nuclear power programme ..... Jan. 111
Italy: nuclear power programme ..... Jan. 104

J

Japan: GEC-Fuji Electric Co. agreement Jan. 83, nuclear power programme ..... Jan. 108 (see also: Reactors)

K

Korea, South: National Atomic Research Institute ..... Feb. 60

L

Leeds and Northrup: EBR II instrumentation contract ..... Feb. 63
Licensing nuclear plant (Blom-Cooper) ... Sept. 93
Lithium Corporation increased sales ..... Dec. 132
Lithium 7: AEC production ..... Nov. 126
Liverpool University instal Deuce 1 computer ..... May 121
Lockheed Aircraft Corp. Controlling interest in Paget Sound Shipbuilding Co. May 119, 1MWe portable reactor (*P*) ..... July 68
Lubricants, radiation-resistant (Nailer) Jan. 132 (O'Connor) ..... Aug. 88-9

M

Makins, Sir Robert, Chairman, UKAEA Aug. 72
Mallinckrodt Nuclear Corp. fuel for Dresden ..... Nov. 130
MAN (Germany) joins Argentinian group ... Oct. 83
Marconi Instruments, new dept. for nucleonic instruments ..... Mar. 119
Martin Co. LFBR development contract Dec. 92, 1MWe PWR contract ..... July 68
Mitchell Engineering: 20MW BWR proposal for British Guiana ..... Jan. 85, Apr. 85
Monitor, neutron, +20MeV (Holt & Clarke) ..... Jan. 125
Mullard Equipment Ltd. 4MeV linear accelerator for Australia ..... Nov. 128

N

National Institute for Research in Nuclear Science,

Harwell contracts Sept. 121, 50MeV linear proton accelerator Sept. 83, 7000MeV proton synchrotron, Harwell ..... Jan. 140
National Reactor Testing Station, Idaho extensions ..... June 132
Netherlands: nuclear power programme ... Jan. 106
Neutron diffusion theory (Jeffrey) ..... Oct. 103-5
Neutrons, resonance absorption ..... Aug. 92
New Zealand: nuclear power programme Jan. 110, 3-million V particle accelerator ..... Dec. 93
Newton Victor Ltd. specialized brazing service ..... Mar. 119
Norway: nuclear power programme ..... Jan. 106
Nuclear Chemical Plant Ltd. board ..... Jan. 142
Nuclear Equipment Ltd. formed ..... July 92
Nuclear Installations (Licensing and Insurance) Bill ..... Jan. 81
Nuclear Installations (Licensing and Insurance) Act royal assent ..... Aug. 1959
Nuclear Materials & Equipment Corp. fuel processing plant ..... Nov. 130
Nuclear power economics ..... Jan. 192-3

Nuclear Propulsion—Aircraft
Airframe design for anti-submarine seaplane Sept. 86
Convair design bomber prototype ..... May 84
US expenditure ..... July 94, Sept. 85
Westinghouse astronuclear laboratory ..... Sept. 86

Nuclear Propulsion—Rockets
Rocket performance (Wyatt) .....Nov. 100-3

Nuclear Propulsion—Marine
BWR for merchant ships (Schmidt and Fidrych) ..... May 106-8
Fairfield and Mitchell combine ..... May 121
Ford Isbrandtsen/Maryland group plans ...Apr. 84
German plans Mar. 115, OMR dev. ..... Mar. 82
Kennedy and Donkin evaluate Swedish tenders ..... Mar. 83
'Lenin' (*P*) Jan 97, nuclear plant tested Jan. 85, trials commenced (*P*) ..... Oct. 84
Nuclear gas engine power plant (Fraas) ... June 118
OMR development contract, GKSS and Interatom ..... Mar. 82
PWR tanker design study, Combustion Engineering ..... Nov. 86
'Savannah' reactor vessel tests June 130, simulator (*P*) .....Sept. 119
UK industry's designs Apr. 119, June 89-91 (leader) July 63, GEC's 50,000 tanker design Aug. 99, PWR (Babcock and Wilcox) design details Aug 76-7, OMR (Hawker Siddeley) design details Aug. 78-9, Steam-cooled HWMR (Vickers) design details ..... Aug. 80-1
US Maritime Administration shipside nuclear servicing vessel ..... Nov. 125
Yarrow-Admiralty Research Dept. facilities (*P*) ..... Dec. 123

Submarines
'Dreadnought': keel laid (*P*) July 65, American reactor Apr. 81, Westinghouse propulsion plant ..... Sept. 120
'George Washington' to fire underwater missiles ..... May 84
'Skipjack' (*P*) ..... Sept. 85
'Theodore Roosevelt' launched (*P*) ..... Nov. 85
'Triton' prototype under test (*P*) ..... Feb. 60
submarine model trials, Japan ..... Sept. 84

O

Organic coolants: heat transfer properties of Santowax R (Grove-Palmer and Pass) Dec. 118-21

P

Pakistan: nuclear power programme Jan. 109, nuclear research institute ..... Feb. 63
Parsons, C. A. uranium dioxide contract Mar. 119
Philadelphia Electric Co. HTGC proposal Jan. 83, contract ..... Oct. 81
Philippines: nuclear research ..... Sept. 84
Physical Society Exhibition, 1959 ..... Feb. 80-3
Plowden, Lord new chairman of British Aluminium ..... Apr. 81
Plutonium: Russian research ..... May 111
Plutonium production Argonne National Laboratory (*P*) ..... Oct. 100-1
Poland: nuclear power programme ..... Jan. 107
Polonium-210 battery (4 lb.) for satellites ... Feb. 63
Portugal: nuclear power programme ..... Jan. 106
Powder metallurgy: Westinghouse sintering process ..... Dec. 130
Powell Duffryn Carbon Products graphite activities Sept. 121, graphite radiographic equipment May 114
Powell Duffryn Engineering Co., Ltd. to make Dempster-Dumster vehicles ..... Nov. 120
Pressure vessels: AGR heat exchangers, fabrication (*P*) ..... June 122
PVC radiation effects (Wells & Williamson) ..... Jan. 123
PVC plasticizers, radiation effect ..... Apr. 112

Products (New Product Survey)
Accelerators, processing (High Voltage).....Dec. 125
Actuator, electro-mechanical (Teleflex).....Sept. 116
Air cylinders, regulator (Baldwin) ..... May 118
Air filters (Fibreglass)..... Jan. 138
Aluminium furnace (Hedins) ..... Dec. 126
Amplifiers, d.c., low-drift (Solartron)..... Dec. 126
Ball mill, vibratory (Apex)..... June 125
Bearings, ptfe (Bound Brook Bearings).....Feb. 98
Recirculation ball bushing (Ransome Marles)..... Feb. 118
Wire ball tracks (Roballo)..... Aug. 102
Bellows, stainless steel (Teddington)..... June 125
Borehole logger (Hendrey)..... June 126
Catalysts, recombination (Engelhard).....May 117
Cathode tubes, subminiature (Hivac)..... Oct. 115
Cement, super-sulphated (Lafarge)..... Dec. 127
Ceramics, honeycomb structure (Corning)...Jan. 138
magnetic (Indiana Steel) ..... Nov. 124
Chopper (Ericsson) ..... June 128
Cleaners, industrial vacuum (Bivac)..... Jan. 138
Cold box installation (Research and Control) ..... Sept. 117
Cold-cathode tube (Hivac) ..... Jan. 138
Computer, digital
light indicator (Thorn) ..... Apr. 118
process control, transistorized (Ferranti) Feb. 96
Conductivity bridge, transistorized (Lock)...Oct. 115
Control instrumentation, Standard Units (Sunvic) ..... Nov. 123
Corrosion protection (BB Chemical) ..... June 128
Counters—mechanical
cold cathode decimal tube (Mullard).....Aug. 102
electric (Counting Instruments) Mar. 118, June 128
(Mullard) ..... Oct. 113
electromagnetic (Lancashire Dynamo)...May 118
trochotron tube (Mullard)..... June 126
Counters—nuclear
amplifier and discriminator unit (Hamner) ..... Sept. 116
autoscaler (Tracerlab) .....Feb. 98
detection foils (Aerojet) ..... Sept. 117
high voltage power supply (Hamner).....Oct. 114
linear (Hammer) ..... Dec. 127
proportional (20th Century)..... June 125
scintillation (Ekco) Nov. 124, (Panax) ... Jan. 138
plastic beads (Pilot Chemicals) ..... Mar. 116
shielded head unit (Nuclear Enterprises) ..... Apr. 116
windowless flow (20th Century) ..... Jan. 134
Crack detector, magnetic (Fraser Smith)...Aug. 102
Crimping Kit (Erma)..... May 118
Cutters, acetylene gas (Baddeley)..... Dec. 125
De-ionization plant (Paterson)..... May 116
Densitometer, film badge (Baldwin)..... May 118
Diesels, air-cooled, 200-400 h.p. (Davey, Paxman) ..... Mar. 118
Drills, diamond-tipped (Holemasters)..... Feb. 117
Dust collector, cyclone (Mancuna-Dustex) Oct. 115
Fans, low noise (Standard and Pochin)..... June 128
plastic (Sturtevant) ..... June 128
Fire extinguishers (Nu-Swift) ..... Feb. 98
Flowmeters, diaphragm (Honeywell)..... Nov. 124
electronic (Rochar) ..... Oct. 114
Fluid flow indicator (Bailey) ..... June 128
Fume extractor (Air Control)..... Feb. 98
Gauging Balls (Insley) ..... Oct. 114
Gaussmeter (Harvey Wells)..... Sept. 118
Gears, instrument (Pioneer)..... May 118
variable speed (Electropower)..... Oct. 114
Graphite heat exchangers (Powell Duffryn) Dec. 125
Hangers, constant support (Vokes)..... Oct. 113
Heaters (Electrothermal) .....July 90
(Stabilag) ..... May 118
Hydraulic tester, portable (Madan)..... May 118
Impedance comparison bridges (Wayne Kerr) ..... Apr. 118
Leak detection, vacuum pumping system (Edwards) ..... Sept. 116
Leak detectors, helium (Basses Pressions)...Mar. 116
mass spectrometer (20th Century)..... June 127
Level control (Fielden)..... Feb. 98
(Lancashire Dynamo) ..... Jan. 138
electronic (Fielden) ..... Sept. 118
optical stabilizer (Cooke, Troughton, Simms) ..... Apr. 118
Luminous Signs (Permluco) ..... Dec. 127
Mains failure alarm (Londex)..... June 128
Metal Surfaces, hardfacing (Deloro Stellite) Apr. 116
Protective atmosphere generator (Royce Electronic) ..... Apr. 118
Meters, frequency (Dawe) ..... Feb. 98
miniature (Baldwins) ..... Dec. 127
relay control (Assembly Products)..... Feb. 94
Mixing agitators (Stockdale)..... May 117
Molybdenum disulphide (Molypaul) ..... July 90
Monitors, effluent (Tracerlab) ..... Apr. 118
fast neutron (Nucleonic Corp.) ..... June 128
ground comtamination (Elliott) Jan. 138, Feb. 96
radiation (Borg-Warner)..... Jan. 134
Monochromator (Hilger and Watts)..... Dec. 127
Motors
d.c. (Pullin) .....Feb. 98
hydraulic, low speed drives (Hydrostatic Transmissions) ..... Nov. 124
totally enclosed (Newman)..... Apr. 118
vibrating drive (English Electric)..... Dec. 127
Moving coil instruments, d.c. (Crompton Parkinson) ..... Sept. 118
Multimeter
electronic .....Apr. 116
portable (Metrix) ..... Jan. 138
Nanoscope (Lion) .....Sept. 117
Neutron source holder (Nuclear-Chicago)...July 88
Nitrogen generator (Birlec)..... Aug. 102
Oscilloscopes
auxiliary (Lion) .....July 88
memotron (Solartron) ..... Aug. 100
Ovens, electric (Hedin)..... May 118
Paint, chlorinated rubber (Atomicote)..... Nov. 123
pH meters (Electronic Instruments)..... Nov. 124
Photoconductive cell (RCA)..... Nov. 124
Photomultipliers (Mullard) .....Feb. 94
miniature, high sensitivity (20th Century) Mar. 116
Pipe couplings (Ruston Hornsby) ..... June 128
high temperature (King Aircraft)..... Mar. 116
self-sealing (Exactor).....July 90
Pipe joints, swivel (Avica)..... Aug. 102
Polyethylene, rigid (Phillips)..... Nov. 124
Potentiometer, Continuous balance null-type (Electroflo) .....Feb. 98
Power stabilizer, d.c. .....Dec. 125
Pressure gauge (Appleby and Ireland).....Oct. 115
tester (Budenberg) .....Sept. 118
Pressure hose, nylon (Polypenco)..... Jan. 138
Pressure recorders (Kent)..... Feb. 96
Pressure tester (Bryans Aeroquipment).....Mar. 118
Pressure transducer (Solartron) ..... May 118
Process timers (Lancashire Dynamo)..... Feb. 96
PTFE resin bonded dispersions (Acheson) Sept. 118
Pulse analyser (Technical Measurement Corp.) .....June 128
Pumps
centrifugal, slurries (Monobloc) .....Dec. 127
oil diffusion (Edwards) ..... Mar. 118
portable barrel (British Central Electric) July 90
rotary (Genevac) Mar. 118 (Holland) Oct. 114,
vacuum (Edwards) .....Apr. 118
Radiation detectors
film badges (Electronic Machine).....Apr. 116
(Tracerlab) ..... Jan. 134
low energy gamma (Plessey) ..... Dec. 126
pocket dosimeter (Radiation) ..... Apr. 118
scintillation (Nuclear-Chicago)..... Jan. 134
(Technical Measurement)..... Oct. 114
Radioisotope containers (Falks)..... Nov. 123
(Gammax) ..... Dec. 125
Radioisotope separation process (Tracerlab) Oct. 113
Recorders, ammeters and voltmeters (Metrix).....Feb. 98
Rectifiers, silicon (Plessey)..... Feb. 98
Relays, booster (Sunvic) .....Sept. 116
comb (Siemens) ..... Feb. 98
interlocking (Magnetic Devices)..... Apr. 118
latched (Simmonds) ..... Dec. 127
Remote handling equipment
cylindrical glove boxes (Boucher)..... May 116
tongs (Teleflex) .....May 117
Research reactors
Jason (Hawker Siddeley)..... June 127
Triga (General Atomics)..... June 128
Robot trolley (EMI) ..... June 128
Sample changer, automatic (Nucleonic Corp.) .....Apr. 117
Scalers (Nucleonic Corp.)..... Mar. 116
high speed (Hamner)..... Sept. 118
(Tracerlab) ..... Dec. 125
Seals, ceramic/metal (Ferranti).....Feb. 98
O-ring, rubber (Precision Rubbers)..... Apr. 118
Shielding
barytes and iron loaded bricks (Unibrix)...July 90
boron- or hydrogen-loaded board (Mallinson) .....Sept. 118
laminated wood (Permali) ..... June 126
pressure moulding bricks (British Lead Mills) .....Oct. 113
tungsten/nickel copper (Johnson Matthey) May 117
Silicone rubber (Midland Silicones)..... Nov. 123
Simulators, thermal (Honeywell)..... Oct. 113
Spectrometers (Harvey-Wells) ..... Mar. 117
Spectrophotometers (Unicorn) .....Feb. 98
Switches, limit (Armstrong Whitworth)..... May 116
(Square D) .....Feb. 98, June 128
micro (Burgess) ..... Dec. 126
extra-miniature (Honeywell) ..... Apr. 118
Television, water level observation (Hopkinsons) .....Mar. 117
Television monitors, kinescope (RCA)..... Dec. 127
Temperature controllers (British Rototherm) Feb. 98
Temperature measurement, thermistors (Plessey) .....Feb. 98
Temperature recorders, transistorized..... Mar. 118
Temperature regulators .....Jan. 138
Temperature transmitters, helium (Sunvic)...Feb. 94
Thermocouple trip amplifier..... Aug. 102
Thermocouples
chromel/alumel (Hoskins) .....May 116
chromel/alumel wire (Research and Control Instruments) .....July 90
h.t. integral sheath (Baker)..... Apr. 116
mineral insulated .....July 88
Thermoplastics, Polypenco..... Oct. 115
Titanium, commercial (ICI)..... Dec. 126
Transistors, testing (Winston Electronics)...Feb. 98
Tube bender, heavy duty (Hilmor) ..... Oct. 115
Tube cutter, automatic (Nevilles) ..... Nov. 124
Tube tester (CNS)..... Apr. 117
Tubes, machining for butt welding (John Brown) .....Feb. 94
Vacuum tester (Bryans Aeroquipment)..... Mar. 118
Valves
butterfly (Cockburns) .....Feb. 98
diaphragm (Sinclair Collins)..... Nov. 123
gas, 10"–36" .....Dec. 127
gate-fluon seated (Hindle)..... July 90
heavy-duty pneumatic (Martonair) .....Jan. 138
pneumatic two-pressure (Hunt and Mitton) .....Sept. 118
steam (Bailey) ..... June 128
Vibrator, rotary (Sinex)..... Sept. 118
Voltmeters
digital (Ferranti) Apr. 117 (Solartron) June 128
peak (Wayne Kerr) ..... July 88
Water demineralizer (Deminrolit)..... Dec. 127
Weighing, automatic (Elcontrol)..... Dec. 127
(EMI)..... Apr. 117
Welding
CO_2 shielded (Philips) .....May 118
electron beam (Edwards) ..... Aug. 100
LectroSonic (Babcock and Wilcox, US) Oct. 113
plastics (Goodburn)..... May 118
stud (Stud Welding).....July 90
power source (Crompton Parkinson)...Aug. 102
transformers .....Apr. 118
Welding powder fluxes (Murex)..... Jan. 134
Welding powder fluxes (Murex)..... Jan. 134

Welding sets, mobile (GEC)..... May 118
Weld radiography (Metrovick)..... June 127
X-ray tube, low-filtration (Müller)..... Dec. 127

R

Radiation monitoring service—Ekco ..... Sept. 119
Radioactive fallout research ..... June 136
Radio-chemistry: colorimetric analysis (Kitt & Moss) Feb. 90, handling radioactive solutions (Moss) June 120, strontium 89 and 90 determination ..... May 112
Radiological protection film badge service (Dealler) Sept. 101-4 (letter) Dec. 85
Radioisotopes: cobalt source from MTR for cancer research Oct. 120, AEC prices reduced July 68, containers (Fraser-Smith) Mar. 120, containers, AEC licensing regulations amended Mar 84, continuous irradiation plant, AERE, Wantage (*P*) Oct. 110-1, industrial use—UK Sept. 120, Krypton 85 separation May 110, medical use, 1st UK establishment June 91, preparation, AERE July 85, regulations, UK Mar. 107, storage and handling (Isotope Developments Ltd.) Feb. 93, testing electric cable installations Nov. 128, use in sugar industry Sept. 84, Warsaw Conference (Jefferson) ..... Nov. 104-5
Reactors—general
boiling sulphur cooled study (Aerojet) ... Sept. 86
liquid cooled reactors, containment vessels (Guard) ..... Jan. 75
organic cooled deuterium reactor (Canadian GEC) ..... May 82
pool and tank types compared (letters) ... June 83
reactor simulators for Berkeley (Elliott Bros.) ..... Jan. 130
reactor siting, CNRN conference, Rome...Aug. 82-3
single-zone U233 thoria reactor (Clarke)...Apr. 109
Small reactor survey, AEC ..... Dec. 111
world summary (tables) ..... Jan. 113-120
Reactors—Power and Experimental
Boiling Water Reactors
AEC 15MW design study contract ..... Jan. 83
Dresden: critical Nov. 89, progress ..... Dec. 91
EBWR (*P*) ..... Jan. 97
Ensi project (SENN): (letter: Matteini) Jan. 75, design details (Elliott and Stathakis) Oct. 87-91, finance Sept. 83 (leader) ..... June 87
Halden HWBR: critical Aug. 74, programme starts ..... Nov. 87
US 'Operation Sunrise' programme ..... Aug. 74
Westinghouse combination plant projects...Dec. 109
Fast Reactors
Dounreay (*P*): Jan. 101, commissioning (Phillips) Dec. 94-100, critical (*P*) Dec. 93, instrumentation and control (Sandiford) ..... Dec. 100a-2a
Enrico Fermi: progress Nov. 120, instrumentation Jan. 141
Soviet BN-50 (*P*) ..... Jan. 97
Graphite Moderated Reactors
gas-cooled reactor design (Wootton) ..... Feb. 64-9
gas-cooled economics (Vincent) ..... Sept. 88-92
gas-cooled reactors: dust removal (Le Page) Apr. 104-7, temperature and reactivity (Syrett) May 95-7, instability control ..... June 94-7
Berkeley: gas duct bellow joints (*P*) Aug. 108, pressure vessels tested (*P*) July 96, progress (*P*) Mar. 112, research centre started ..... Apr. 120
Bradwell: CO_2 inlet ducts (*P*) ..... June 130
progress (*P*) ..... Apr. 120
Calder Hall B station critical ..... Jan. 85
Chapelcross (*P*) Jan. 101, No. 1 reactor commissioned (Fair) June 104-9, supplies national grid Apr. 85
Hallam Nuclear Power Facility (HNPF) progress ..... Oct. 118
Hanford New Production Reactor ..... June 93
Hero for Windscale ..... Mar. 82
Hunterston: integration of nuclear and water power May 84, progress (*P*) ..... Apr. 119
Latina: work starts (*P*) Jan. 81, progress (*P*) Dec. 92
Marcoule: G1 first Wigner release Feb. 60, G2 (*P*) Jan. 101, G3 critical ..... Sept. 84
Sizewell: preliminary marine survey ..... Mar. 120
Tokai Mura: GEC's modified Hunterston design (*P*) Apr. 83, letter of intent May 83, graphite earthquake hazards May 125, fuel requirements Sept. 119, revised core design ..... Nov. 86
Trawsfynydd: APC contract July 65, fuel changing plant Sept. 120, engineering design (Ashley) Nov. 90-4, technical calculations (Young) Nov. 95-7, civil engineering (New) Nov. 97-9, cut-away wall chart ..... Nov. 98
High Temperature Gas Cooled Reactors
OEEC 'Dragon' project Mar. 85, agreement signed Apr. 85, design ..... Apr. 102-3
AEC contracts to General Dynamics and Philadelphia Elec. ..... Jan. 83, Oct. 81
Advanced Gas Cooled Reactors
Windscale (*P*) Oct. 83, coloured chart Jan. 112
CEGB 300MW proposal ..... Nov. 86
Heavy Water Reactors (see also: Boiling Water Reactors)
CANDU: final design Aug. 74, site Oct. 84, test loop ..... Oct. 116
100MW German design ..... Feb. 60
Swiss Würenlingen project (*P*) ..... Jan. 109
Homogeneous Reactors
LAPRE II critical ..... May 84
LMFR concept: experimental work (Poor)...Feb. 84
Westinghouse 70-150MW project dropped...Feb. 61
Organic Moderated Reactors
Organic cooled deuterium moderated reactor experiment (OCDRE) contract to Canadian GEC ..... July 67
Atomics International OMR critical (*P*)..... July 67
Piqua: site Apr. 85, containment structure Oct. 116
Pressurized Water Reactors
PWR for Belgium (Gerard) ..... Apr. 86-91
PWR: activity build-up with stainless steel elements (Zinn) ..... Apr. 109-111
SELNI: Westinghouse contract June 92, US financial help ..... Dec. 90
SPERT III (*P*) ..... Feb. 78-9
Sodium Cooled Reactors
SDR project suspended ..... Aug. 74
SRE (*P*) Jan. 97, 1000° steam heat Aug. 74, fuel element failure ..... Oct. 85
Sodium reactor components, AEC contracts Sept. 119
British Guiana
20MW BWR proposal ..... Jan. 85, Apr. 85
Czechoslovakia
150MW HWGC reactor from USSR ..... July 68
Germany, Federal Republic
15MW experimental gas cooled reactor for Westphalia ..... Mar. 83
100MW BWR design study contract ..... Jan. 83
Hungary
Soviet type 2MW reactor (*P*) ..... Sept. 86
critical (*P*) ..... May 82
India
Candia reactor (*P*) ..... Jan. 109
250 MW reactor planned ..... Oct. 84
Japan
12½MW BWR Intl. GEC contract (*P*) ..... May 83
Spain
Ebro Valley 250MW reactor under construction ..... Dec. 90
Sweden
R4/Eva project postponed ..... Dec. 92
USA
Fast breeder projects ..... Feb. 61
Lockheed's 1MWe portable reactor (*P*)..... July 68
Martin 1MWe PWR, AEC contract ..... July 68
Martin liquid fluidized bed reactor development contract ..... Dec. 92
16MW PWR proposals ..... Sept. 85
Thermal breeder reactor programme ..... Sept. 85
Westinghouse water cooled projects at guaranteed costs ..... Nov. 86
USSR
2MW light water mobile reactors under construction ..... May 84
Beloyarsk nuclear power station progress... Oct. 84
Novovoronezhskaya nuclear power station progress ..... Sept. 85
Reactors—Research and Testing
laboratory reactor survey ..... Mar. 86-95
Aerojet 10MWt pool test reactor ..... Feb. 63
Atomics International 10W L77 critical ... Apr. 85
BR2 and BR3 containment shells (*P*) Nov. 126, BR3: Nuclear Materials, USA, supply fuel June 130
DR2 (*P*) Jan. 105, DR2: defects delay criticality Jan. 83, DR3: guard and interlock circuits by Ekco ..... Mar. 120
Dido: high-pressure water loop (Everson) Dec. 103-8
Lutar (*P*) ..... Jan. 109
Jason: under construction Apr. 81, design variations June 127, critical (*P*) ..... Nov. 85
Lido: neutron flux measurements (Weale and others) ..... Jan. 123
Medical Research Reactor (BNL) critical ... May 85
Merlin (*P*) Sept. 113, critical (*P*) ..... Aug. 73
Nuclear Test Plant (NTP): Combustion Engineering's proposal ..... Oct. 86
1MW PWR for Army Nuclear Power Programme ..... Apr. 85
Treat: critical ..... Apr. 83
Triga: medical applications ..... Mar. 84
Vickers 5MW HW design study (*P*) ..... Apr. 82
Westinghouse Testing Reactor (*P*) ..... Feb. 62
critical ..... Aug. 74
ZED-2, Chalk River ..... May 82
Zenith exponential experiments ..... Sept. 105
Austria
AMF swimming pool reactor (*P*) ..... Oct. 84
Triga II ordered ..... Feb. 63
Czechoslovakia
2MW pool reactor (*P*) ..... Jan. 105
Germany, Federal Republic
Karlsruhe 12MW reactor (*P*) ..... Dec. 90
Israel
AMF 1MW reactor (*P*) ..... Sept. 85
Italy
10MW training reactor proposal ..... Jan. 85
Puerto Rico
Ist 10MW reactor June 92, critical Oct. 84
Spain
3MW pool reactor (*P*) ..... Jan. 105
Thailand
1MW reactor for Bangkok ..... Feb. 63
USSR
2MW Tashkent water moderated reactor critical (*P*) ..... Oct 86
ultra-high flux reactor construction started May 83
Venezuela
30MW pool reactor construction resumed Apr. 84
Remote handling equipment: AEC 27 ton radiation probe bridge Dec. 128, Carter and Viner's manipulators (*P*) July 87, GEC manipulator sales Sept. 119, glove box for continuous handling, AERE (*P*) Oct. 116, glove box hoist Oct. 118, robot maintenance units Apr. 120, nuclear aero engine assembly ..... May 119
Rio Tinto buy Thorium Ltd. ..... Dec. 128
Rolls-Royce Associates Ltd. formed ..... Mar. 119
Rumania: nuclear power programme ..... Jan. 108

S

Sandvik Steel Works high temperature steel research (*P*) ..... Dec. 130
Savage and Parsons handle Marconi's industrial television equipment ..... June 129
Seals: silicone rubber (Midland Silicone ... Mar. 120
Shell-Mex and B.P. Ltd. radiation resist lubricants ..... Jan. 132
Shielding: lead, X-ray penetration ... bell and others) Mar. 111, radiation wind ... (Chance-Pilkington) ..... Mar. 113
Siemens Edison Swan (AEI) reorganiza ... Jan. 142
Siemens Schuckert 100MW HW re ... r design study ..... Feb. 60
Solartron new French associate compa ... July 94
South Africa: high electricity cos ... June 91
nuclear power programme ..... Jan. 110
Spain: nuclear power programme Jan ... May 84
Spectroscopy (Turnbull) 108-111
Steels Engineering Installations Ltd. n ... production facilities ..... Sept. 122
Studiengesellschaft für Kernkraftwer ... (SKW) design study contracts for G ... and BWR reactors ..... Jan. 83
Sweden: nuclear power programme ... Jan. 106
Switzerland: nuclear power programm ... Jan. 107, 25000MeV proton synchrotron (*P*) Fe ... 62, two 10MeV accelerators bought ..... Jan. 85
Sylvania-Corning buys shares in Frenc ... CERCA ..... Aug. 104
Synchrotrons: NIRN, Harwell, Jan. 14 ... Switzerland ..... Feb. 62

T

Television camera components: radiation effects ..... Aug. 93
Texas Instruments merge with Metals & Controls ..... Feb. 104
Thermionic Converters (*P*) ..... Feb. 102
Thermonuclear research: microwave analysis (Hamberger) Sept. 106, status report (Robson) June 98-101, vacuum switch (Bracewell) ... Nov. 115-7
Thorium Ltd. bought by Rio Tinto and Swiss Dow Chemie ..... Dec. 128
Thorium-magnesium alloys analysis (Milner & Edwards) ..... Mar. 110
Tracerlab trading losses ..... Oct. 118
Transistors: International Convention, 1959 July 84
Tritium gas: AEC production ..... June 93
Tube Investments laboratory facilities ... Nov. 121
Tubing, finned, Hilmore bending equipment May 115
Turbine unit Westinghouse export to Belgium ..... May 119
20th Century Electronics ionization chambers for BRII ..... Jan. 140

U

United Kingdom: nuclear power programme Jan. 99 (Fletcher) Jan. 126, Oldbury-on-Severn site May 84, power situation ..... May 125
UKAEA annual report 1958/59 Aug. 75, estimates 1959-60 Apr. 81, radioactive caesium recovery plant contract Apr. 85, controlled thermonuclear reactor project Mar. 82, new thermonuclear site Dec. 89, Winfrith Heath establishment progress (*P*) ..... Aug. 90-91
UKAEA: Harwell: data recording and analysing system Jan. 141, Isotope School Jan. 82, Neutron Project Laboratory Dec. 128, neutron time of flight experiments (*P*) ..... Dec. 89
UKAEA Industrial Group Select Committee report Sept. 87, reorganization Apr. 81, Aug. 75, Computer section Jan. 82, industrial inventions Feb. 59, Springfields—fuel element manufacture Mar. 102-6
USA: Bureau of Mines metallurgical research Sept. 121, nuclear engineering industry curtails operations May 125, nuclear industry's foothold in Europe June 129, nuclear power programme Jan. 94, Sherwood programme ..... Jan. 128
USAEC budget, 1960 Apr. 83, new projects Nov. 88
USSR nuclear power programme (map) Jan. 96-7
Uranium: Australian exports Nov. 89, deformation (Butcher) Oct. 105-6, Canada supplies IAEA May 81, IAEA supplies Japan Feb. 62, Lucky Mc Uranium, AEC agreement June 129, resources June 136, USA industry Nov. 128, USAEC contracts ..... May 85
Uruguay: nuclear power programme ..... Jan. 111

V

Van de Graaff accelerator for Copenhagen Institute for Theoretical Physics (*P*) ..... Aug. 156
Van de Graaff generator installed at AWRE (*P*) ..... July 66
Vitro Chemical Co. formed ..... Dec. 132
Viet-Nam: new nuclear centre with 100kW Triga ..... Dec. 92

W

Wallace & Tiernan Ltd. new dept. for pressure instruments ..... Nov. 126
Waste disposal: remote controlled evaporator Sept. 107, vermiculite used at Harwell ..... May 119
Water de-ionization plant, portable ..... May 120
Weld inspection, radiography—Hinkley boilers: (*P*) ..... Dec. 128
Welding: argon and helium shielding (Barker) June 119, electro-slag technique ..... Dec. 124
Westinghouse Electric Corp. BWR combination plant projects Dec. 109, SELNI contract June 92, Testing Reactor (*P*) ..... Feb. 62
Wilson, A. C., and Partners, Ltd. interests sold to Power-Gas Corp. Ltd. ..... Jan. 141

Y

Yttrium produced by US Bureau of Mines Mar. 120
Yugoslavia: nuclear power programme.....Jan. 108

Z

Zirconium corrosion ..... July 86